

12P

# OWNER'S MANUAL 12PT SHREDDER-CHIPPER

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12PTE



12P



12PT - 12PTE

**This machine is capable of inflicting  
Serious injury if operated improperly  
- Read warnings and caution labels -**

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8/29/22

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## SECTION I – SAFETY

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**This symbol points out important safety instructions**, which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate your shredder/chipper. Failure to comply with these instructions may result in personal injury. When you see this symbol - **heed its warning**.

**THIS MACHINE IS CAPABLE OF INFLICTING SERIOUS INJURY IF OPERATED IMPROPERLY -- READ WARNINGS & CAUTION LABELS.**

### INTENDED USE

**Never** use your shredder/chipper for any other purpose than shredding and chipping limbs or other lawn and garden debris. It is designed for this use and any other use may cause serious injury.

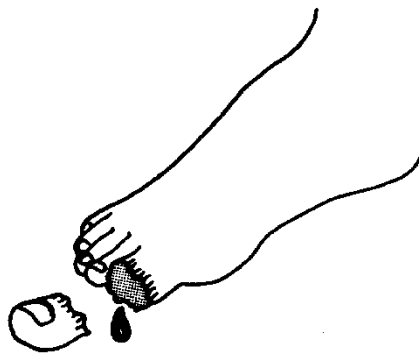
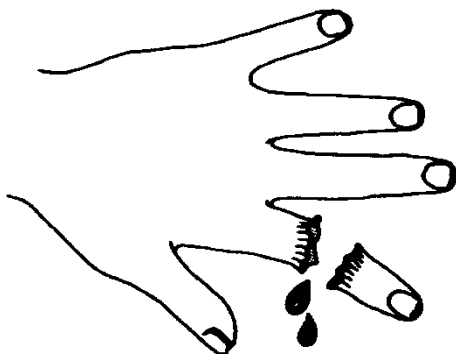


**DANGER: *Rotating cutting blade.***

Keep hands and feet out of inlet and discharge opening while machine is running.

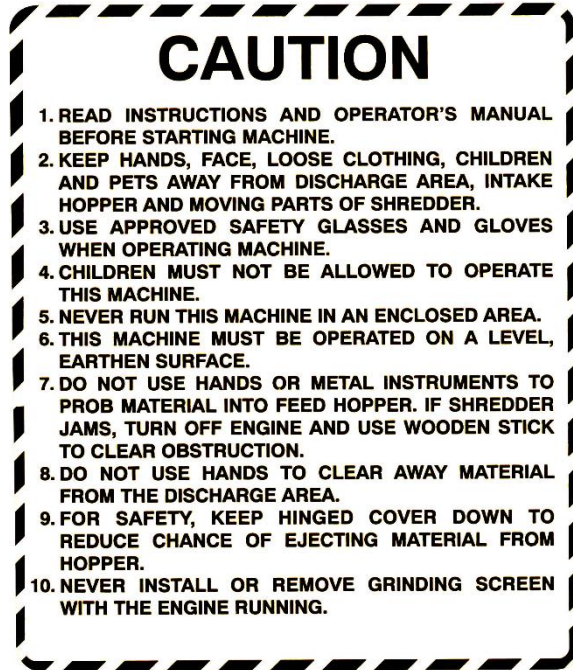


**DANGER:** This machine can **CRUSH, GRIND, CUT**, and **SEVER** parts of your body if they enter the inlet or discharge area of your shredder/chipper.



**DANGER:** Your shredder/chipper was built to be operated according to the rules for safe operation in this manual. **As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury.** If you violate any of these rules, you may cause serious injury to yourself or others.

**MAKE CERTAIN THAT ALL SAFETY LABELS ON THIS EQUIPMENT ARE KEPT CLEAN AND IN GOOD CONDITION. IF YOU NEED REPLACEMENT LABELS, ORDER BY PART NUMBER.**



080-0962



080-0967



080-0970



091-0055



091-0059



091-0088

# **SAFE OPERATION PRACTICES**

## **TRAINING**

- Read this owner's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine before operation. Be completely familiar with the controls and the proper use of the machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
- Know how to stop the unit and disengage the controls quickly.
- Never allow children to operate the unit. Never allow adults to operate the equipment without proper instruction. Only responsible individuals who are familiar with these rules of safe operation should be allowed to use your unit.
- Keep the area of operation clear of all persons, particularly small children and pets. Stop the engine when they are in the vicinity of the unit. Keep work area clean and clear of branches or obstacles, which could cause you to stumble or fall.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Your shredder/chipper is a powerful tool, not a plaything. Exercise extreme caution at all times. Your unit has been designed to shred and chip. Do not use it for any other purpose.
- If situations occur which are not covered in this manual, use care and good judgment. Contact your place of purchase for additional assistance.

## **PREPARATION**

- Thoroughly inspect the area where the equipment is to be used and remove all foreign objects.
- Do not operate the machine without wearing adequate outer garments and safety goggles. Always wear safety glasses or goggles during operation and while performing any adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine. Be sure your glasses or goggles fit properly.
- Avoid loose-fitting clothes and use protective footwear that will improve footing on slippery surfaces. Shirt and slacks that cover the arms and legs and steel-toed shoes are recommended. Secure hair above shoulders. Do not wear loose clothes or jewelry that can be caught in moving parts. Never operate a unit in bare feet, sandals or sneakers. Wear gloves when feeding material into the shredder hopper or chipper chute. Be sure your gloves fit properly and do not have loose cuffs or drawstring.
- Warning: Fuel is highly flammable and the vapors are explosive. Take the following precautions.
  - Store fuel and oil in approved containers.
  - Keep away from heat and open flame, and out of the reach of children.
  - Refuel outdoors only and do not smoke while refueling.
  - Check and add fuel before starting the engine. Never remove gas cap or add fuel while the engine is running or when the engine is hot. Allow engine to cool before refueling.
  - If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have disappeared.
  - Replace all fuel tank and container caps securely.
  - Never store the machine or fuel container inside where there is an open flame or spark, such as a gas hot water heater, space heater, clothes dryer or furnace.
  - To reduce fire hazard, keep engine and muffler free of debris build-up. Clean up fuel and oil spillage. Allow unit to cool at least five minutes before storing.
- Never attempt to make any adjustments while the engine is running.

## OPERATION

- Never place your hands, feet, or any part of your body in the shredder hopper, chipper chute, discharge opening, or near or under any moving part while the shredder/chipper is running. Keep clear of the discharge opening at all times. If it becomes necessary to push material into the shredder hopper or chipper chute, use a small diameter stick, NOT YOUR HANDS.
- Keep your face and body back from the shredder hopper and chipper chute to avoid accidental bounce back of any material.
- The machine should only be operated on a level surface. Never operate your unit on a slippery, wet, muddy, or icy surface.
- Exercise caution to avoid slipping or falling.
- Stay alert for hidden hazards or traffic. Do not carry passengers.
- If the cutting mechanism strikes a foreign object or if your machine should start making an unusual noise or vibration, immediately stop the engine, remove the spark plug wire(s) and wait for all moving parts to come to a complete stop. After the machine has come to a complete stop proceed as follows:
  - Inspect for any damage.
  - Repair or replace any damaged parts before restarting and operating the machine.
- If the machine should start to vibrate abnormally, immediately stop the engine, remove the spark plug wire(s) and wait for all moving parts to come to a complete stop and inspect for the cause. Vibration is generally a warning sign of trouble.
- Stop the engine when leaving the operating position, and when making any repairs, adjustments and inspections.
- Take all possible precautions as recommended by the manufacturer when leaving the machine unattended. Stop the engine and remove the key if so equipped.
- Before cleaning, repairing, or inspecting, shut off the engine and make certain the flywheel and all moving parts have come to a complete stop. Disconnect the spark plug wire and keep the wire away from spark plug to prevent accidental starting. Do not use flammable solutions to clean air filter.
- Never run this machine in an enclosed area as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and deadly poisonous gas.
- Keep all guards and safety devices in place and operating properly. Do not operate the machine if all safety guards are not in place.
- Do not use the unit with the shredder hopper or chipper hopper removed.
- The muffler and engine become hot and can cause a severe burn. Do not touch.
- Keep children and pets away.
  - Tragic accidents can occur if the operator is not alert to the presence of small children.
  - Keep children out of the work area and under the watchful eye of a responsible adult other than the operator.
  - Be alert and turn the unit off if a child enters the area.
  - Never allow children to operate the shredder/chipper.
- Do not overload or attempt to shred or chip material beyond manufacturers recommendation. Personal injury or damage to the machine could result.
- Never operate the machine at high transport speeds or on hard or slippery surfaces.
- Never allow bystanders near the unit while running.
- Only use accessories approved for this machine by the manufacturer. Read, understand, and follow all the instructions provided with the approved accessory.
- Only operate unit in good daylight. Do not operate unit at night or in dark areas where your vision may be impaired.
- Use extreme caution when reversing or pulling the machine towards you.
- Do not tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. See your authorized dealer for engine governor adjustments.
- Start the engine according to the manufacturer's instructions. Keep hands and feet away from inlet and discharge areas.
- Never pick up or carry the machine while the engine is running.
- Do not operate while under the use of alcohol, drugs, or medication. A clear mind is essential for safety.
- Do not allow anyone who is not alert to operate this machine.
- When feeding material into this equipment, be extremely careful that pieces of metal, rocks, or other foreign objects are not included. Personal injury or damage to the machine could result.

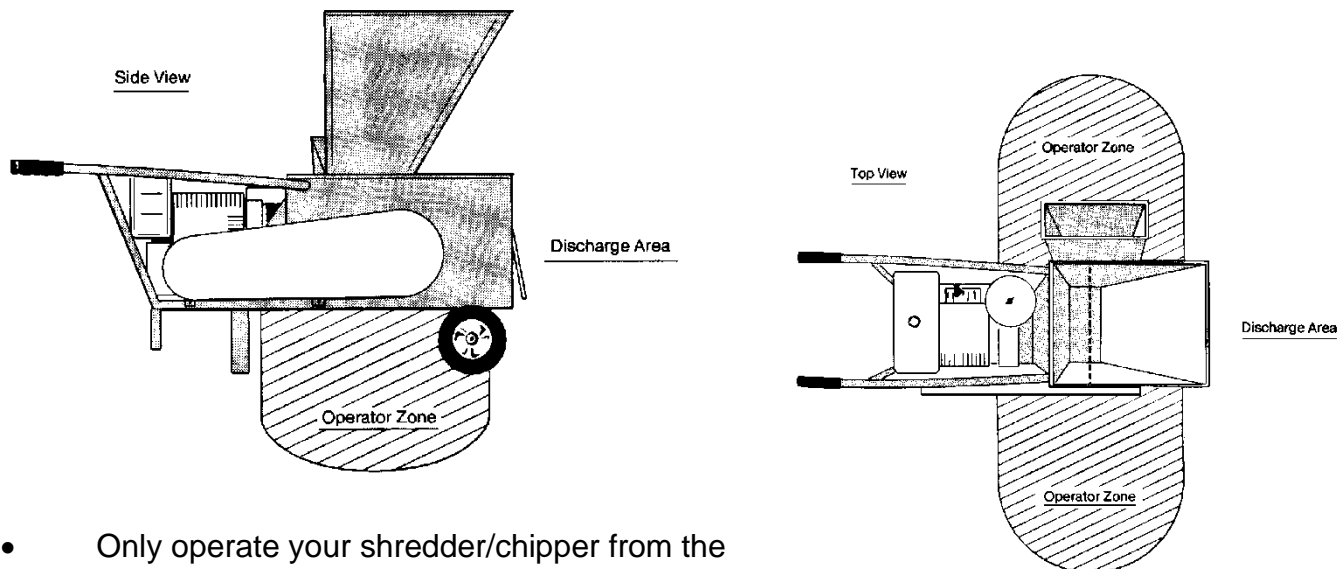
- Keep area of discharge clear of people, animals, buildings, glass or anything else that will obstruct clear discharge, cause injury or damage. Wind can also change discharge direction, so be aware.
- Do not allow an accumulation of processed material to build up in the discharge area as this will prevent proper discharge and can result in kickback from the shredder hopper or chipper chute.
- Do not allow any part of the engine, especially around the cooling fans and muffler, to become clogged with processed material, leaves, oil, grease or any other combustible material.
- Do not operate engine if air cleaner or cover over carburetor air-intake is removed, except for adjustment. Removal of such parts could create a fire hazard.

## **MAINTENANCE AND STORAGE**

- Keep machine, attachments and accessories in safe working condition.
- Check engine mounting bolts and other hardware at frequent intervals for proper tightness. Never operate your shredder/chipper in poor mechanical condition or when in need of repair. Be sure all safety guards and shields are in proper position. These safety devices are for your protection.
- Never store machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers and the like. Allow the engine to cool before storing in any enclosure.
- Always refer to the operator's manual for important details if the machine is to be stored for an extended period.
- If the fuel tank is to be drained, do this outdoors.
- Follow the manufacturer's recommendations for safe loading, unloading and storage of machine.
- If it is necessary for any reason to unclog the feed intake or discharge openings or to inspect or repair the machine where a moving part can come in contact with your body or clothing, shut the machine off, allow all moving parts to come to a complete stop and disconnect spark plug wire(s) before attempting to unclog, inspect or repair.
- Check the knife mounting screws at frequent intervals for proper tightness. Also visually inspect the knife for wear or damage. Replace the knife with parts that meet original equipment specifications.
- Knives should be checked for sharpness and the bolts attaching them to the flywheel for tightness every 8-10 hours of operation.
- Check the gap between the knife and the wear plate every time you sharpen or replace the knife, or every 8-10 hours of operation.
- Never tamper with safety devices. Check their proper operation regularly.
- Inspect the belt each time you use the unit. Look for damage, worn areas or tears. Do not use the unit if this condition exists.
- Do not tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. See your authorized dealer for engine governor adjustment

**ADD OIL BEFORE INITIAL START UP!  
THE ENGINE IS SHIPPED WITHOUT OIL.  
ALWAYS CHECK OIL BEFORE STARTING MACHINE!**

## OPERATOR ZONE



- Only operate your shredder/chipper from the operator zone.
- Know how to turn your unit off.
- Never move your shredder/chipper or leave it unattended with the engine running.
- Follow engine owner's manual for engine maintenance and repair.

## YOUR RESPONSIBILITY

Restrict the use of this power machine to persons who read, understand, and follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTION  
FOR FUTURE REFERENCE



is

**HAZARD:** This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester used, the operator should maintain it in effective working order.

In the State of California, the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your Briggs & Stratton servicing dealer.



## SECTION II - ASSEMBLY INSTRUCTIONS

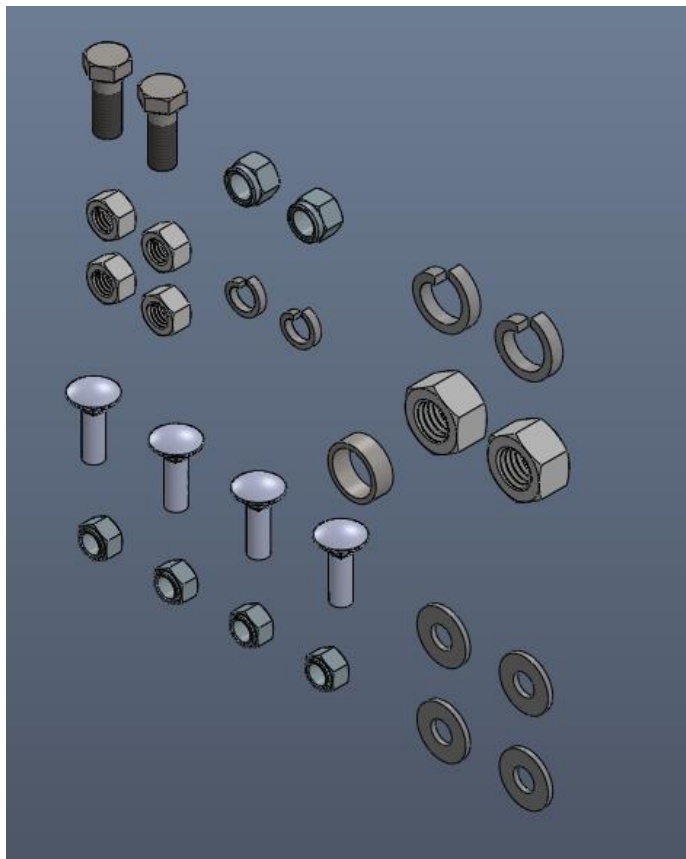
### PACKAGE CONTENTS

SKID	POLYBAG	BOLTBAG 12P	BOLT BAG 12PT/PTE
BASIC MACHINE	OWNER'S MANUAL	2 EA 3/8-16X1" HHCS	4 EA – 5/16-18 X 3/4" CARRIAGE BOLT
CHIPPER HOPPER	ENGINE MANUAL	2 EA 3/8-16 NYLOCK NUT	4 EA – 5/16 FLATWASHERS
HOPPER FLEX GUARD	WARRANTY CARD	4 EA 3/8-16 HEX NUT	4 EA – 5/16-18 NYLOCK NUT
LH HANDLE (12P ONLY)	BOLTBAG	2 EA 3/8 INT. TOOTH LOCKWASHER	
RH HANDLE (12P ONLY)	KNIFE GAUGE	2 EA 5/8 INT. TOOTH LOCKWASHER	
		2 EA 5/8-11 HEX NUT	<u>12PTE</u>
		1 EA 5/16" SPACER	
		2 EA BLACK HANDLE GRIP	2 EA – RED PLASTIC KEY
		4 EA – 5/16-18 X 3/4" CARRIAGE BOLT	
		4 EA – 5/16 FLATWASHERS	
		4 EA – 5/16-18 NYLOCK NUT	

### STEP I – UNPACKING AND CHECKING CONTENTS

1. Remove all items from the crate.
2. After unpacking the crate, compare the contents with the list above.
3. If assembling 12PT/PTE, compare bolt bag components with picture provided below.
4. If any parts are missing, contact your place of purchase at once.
5. Assembly should be done on a clean, level surface.

#### Bolt Bag Components 12PT/PTE



To start a 12PTE you must insert the red plastic key as shown below.



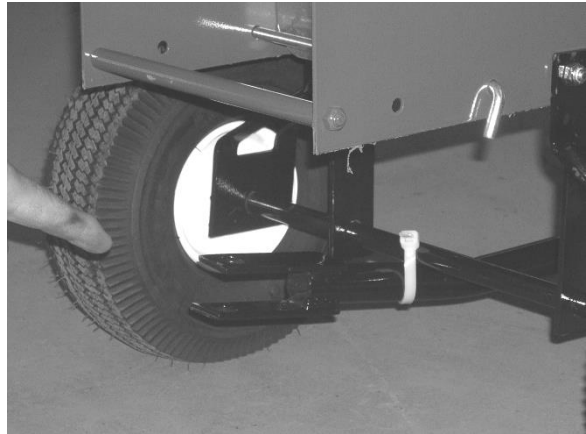
No key inserted – won't start.



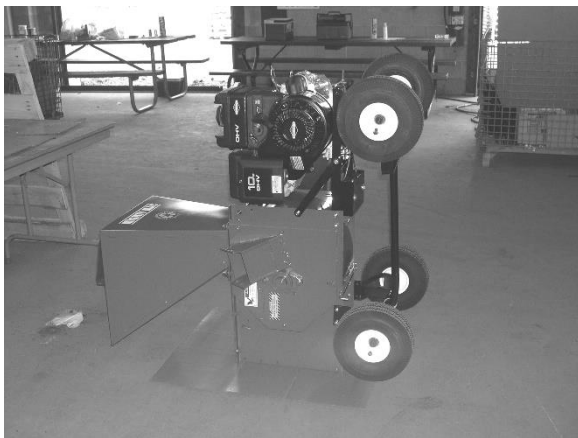
Key inserted – will start.

**STEP II – POSITIONING THE TOW TONGUE (on 12PT/PTE only)**

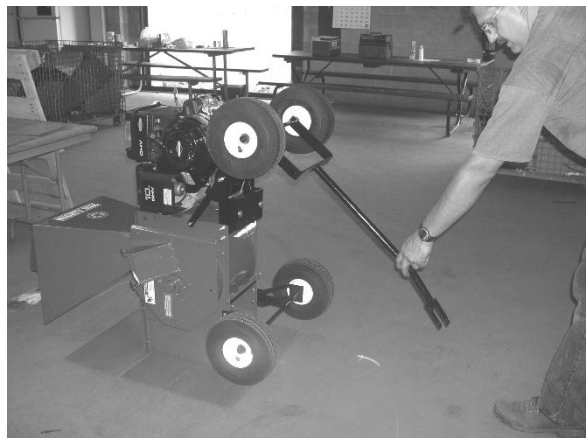
**DO THIS BEFORE ADDING GAS AND OIL TO YOUR MACHINE.**



Your 12PT arrives like this.



Tilt machine onto discharge.



Cut plastic tie attaching tow tongue to axle and pull tow tongue forward.



Lower machine back down to all 4 wheels.



Your machine is ready for further assembly.

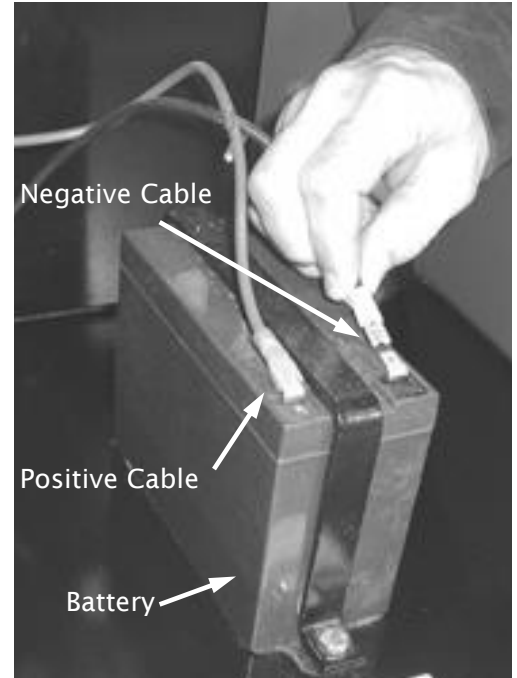
## STEP IIa – Connecting the Battery Cable (Electric Start) (on 12PTE only)

We ship the electric-start with the negative terminal battery cable disconnected.

This prevents the battery from discharging during shipment.

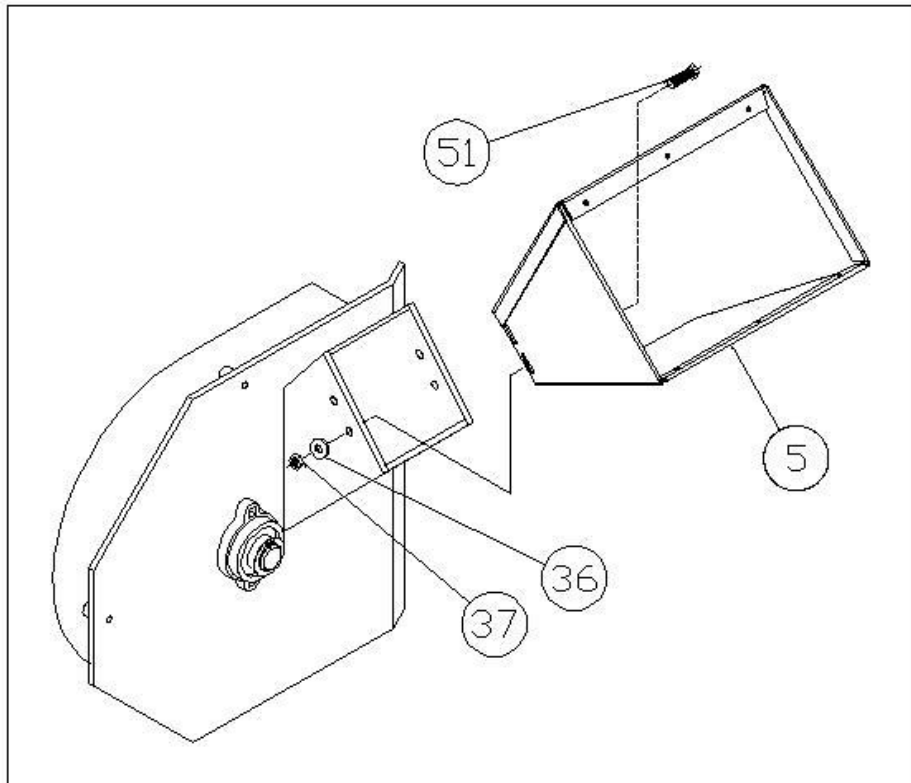
Before using your electric start, you must connect the battery cable.

1. Slide the Terminal of the Negative Battery Cable onto the Negative Terminal Lug of the Battery.



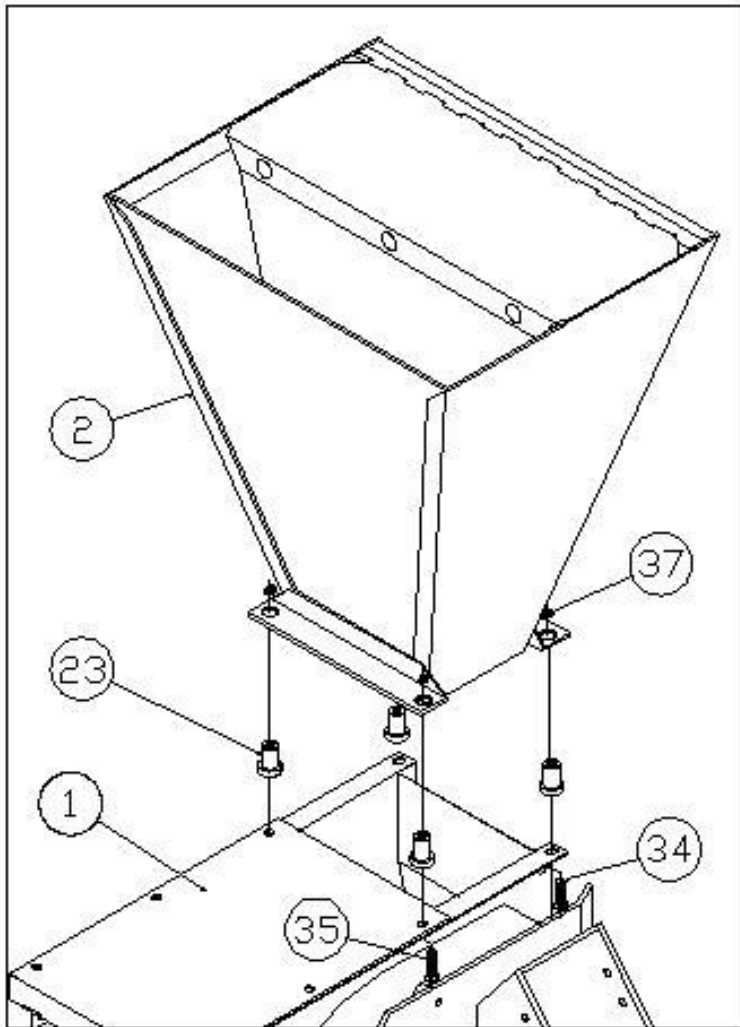
## STEP III – INSTALLING THE CHIPPER HOPPER

1. Find and remove the four carriage bolts (item #51) from the bolt bag. Hold the chipper hopper (item #5) in place and then bolt in place using the four carriage bolts through the square holes in the bottom of the hopper going from the inside out. (See cut away A)
2. Place four flatwashers (item #36) and four Nylock nuts (item #37) on the end of each bolt. Secure tightly.

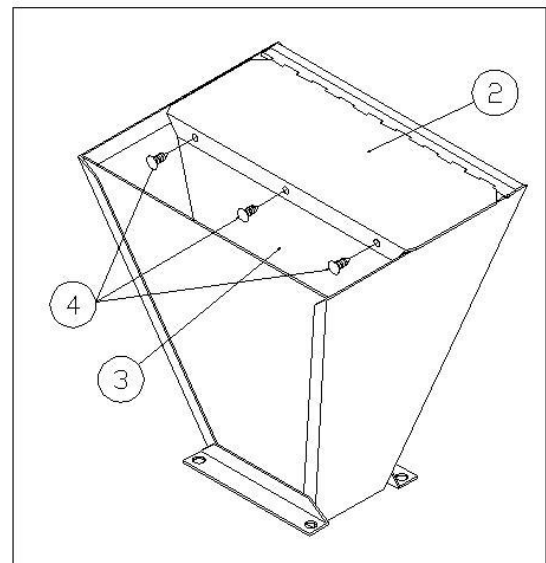


**SECTION IV – INSTALLING THE SHREDDER HOPPER-FIG. 1 (If not installed from factory)**

1. Place bolts (item #34,35) up through the machine and start to thread vibration dampeners on them to hold in place. Set shredder hopper (item #2) in place on the vibration dampeners and secure them tightly. Place nylock nuts (item #37) on in addition for added security.



**FIG. 1**



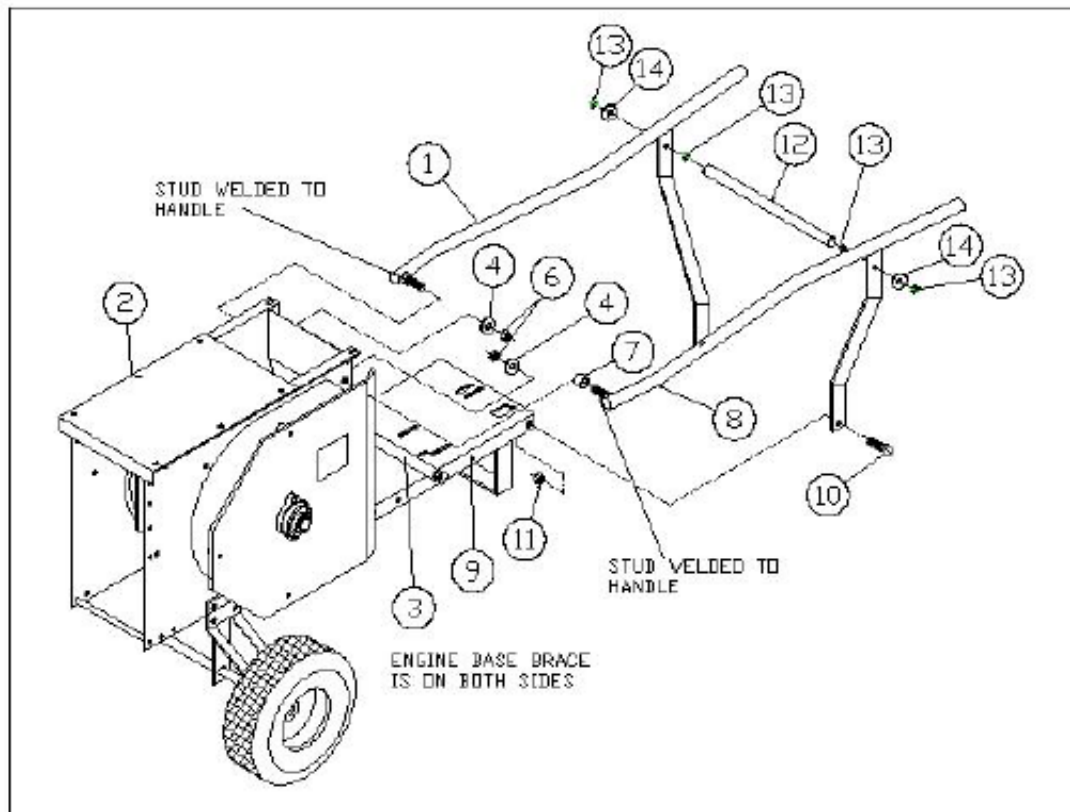
**FIG. 2**

**STEP V – ATTACHING THE HOPPER FLEX GUARD TO THE SHREDDER HOPPER-FIG. 2 (If not installed from factory)**

1. Hold the hopper flex guard (item # 3) under the lip of the shredder hopper (item #2) and push the three push button holders (item #4) from the bolt bag through the hopper and the guard.

## 12P HANDLE ASSEMBLY

1. Attach the right hand handle (#1) to the basic shredder (#2) by placing the threaded stud that is welded to the handle through the large hole above the engine base brace (#3). Hand-tighten only with a 5/8 internal tooth lock washer (#4) and a 5/8-11 hex nut (#6).
2. Put the spacer (#7) from the bolt bag onto the threaded stud on the left hand handle (#8) and attach to the basic shredder, using a 5/8 internal tooth lockwasher (#4) and a 5/8-11 hex nut (#6) just as you did to the right hand handle in step #1.
3. Attach the lower end of both handles to the engine base (#9) with the 3/8-16 x 1" HHCS (#10) and the 3/8-16 nylock nuts (#11) as shown in the diagram.
4. Take the handle tie rod (#12), and thread a 3/8-16 hex nut (#13) as far as possible onto both ends. Put in place between the handles as shown in the diagram.
5. Put the 3/8 locking washer (#14) onto the both sides of the tie rod.
6. Thread another 3/8-16 hex nut (#13) onto both sides of the tie rod until flush with the end of the tie rod. Now back off the inside 3/8-16 hex nuts and tighten them against the handle.
7. Securely tighten all hardware.



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## SECTION III - LUBRICATION & ENGINE START UP

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### FOR INFORMATION ABOUT:

- OIL
- FUEL
- STARTING
- STOPPING
- RECOMMENDED MAINTENANCE
- SERVICE
- STORAGE
- ENGINE WARRANTY INFORMATION

### REFER TO THE ENGINE OWNER'S MANUAL.

**THE ENGINE ON YOUR CHIPPER SHREDDER HAS BEEN SHIPPED DRY.**

**BE SURE TO SERVICE THE ENGINE ACCORDING TO THE ENGINE OWNER'S MANUAL PRIOR TO STARTING.**

**FAILURE TO DO SO CAN RESULT IN DAMAGE NOT WARRANTED BY THE ENGINE MANUFACTURER.**

**WARNING:** Do not fill closer than ½" from the top of the fuel tank to prevent spills and to allow for fuel expansion. If gasoline is accidentally spilled, move the machine away from the area of the spill. Avoid creating any source of ignition until gasoline vapors have disappeared.

**CAUTION:** Experience indicates that alcohol blended fuels (gasohol, ethanol, methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system or an entire engine while in storage. To avoid engine problems, the fuel system should be empty before storage for periods over 30 days. For more information, refer to the engine owner's manual. Use fresh fuel each season. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may result.

**ALWAYS CHECK OIL LEVEL PRIOR TO STARTING THE CHIPPER SHREDDER.**

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## SECTION IV – SHREDDING & CHIPPING

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**THIS SHREDDER/CHIPPER WAS DESIGNED FOR SHREDDING LEAFY GARDEN OR ORGANIC MATERIAL AND CHIPPING LIMBS OR BRANCHES. NEVER USE THIS MACHINE FOR ANY OTHER PURPOSE AS IT COULD CAUSE SERIOUS INJURY.**

**CONTACT WITH INTERNAL ROTATING HAMMERS WILL CAUSE SERIOUS PERSONAL INJURY. DO NOT PUT HANDS, FACE, FEET OR CLOTHING INTO THE SHREDDER HOPPER, CHIPPER CHUTE, DISCHARGE OPENING OR NEAR THE DISCHARGE AREA AT ANY TIME.**

**MAINTENANCE AND SERVICE SHOULD ONLY BE PERFORMED AFTER THE ENGINE IS TURNED OFF AND ALL MOVING PARTS HAVE COME TO A COMPLETE STOP. USE ONLY A WOODEN STICK TO CLEAR JAMMED MATERIAL AFTER ALL MOVING PARTS HAVE STOPPED COMPLETELY.**

### **SAFETY FIRST**

- **Always** wear protective gloves and safety glasses during operation of the shredder/chipper.
- **Never** allow your hands or any part of your body or clothing inside the feed hoppers or discharge area of the shredder/chipper.
- **Always** keep all protective guards and warning labels on the machine and in good working condition.
- **Always** stand clear of the discharge area when the shredder/chipper is running.
- **Always** keep your face and body back from the feed hoppers to avoid being struck by any material that may bounce back.
- **Always** keep proper balance and footing while operating the shredder/chipper.
- **Always** use a wooden stick, never your hands, to push material into the feed hoppers.
- **Never** assume you know where the chipper knife is. You do not know where it is.
- **Always** keep area of discharge clear of everyone and everything to avoid injuries and property damage. Wind can also change discharge direction, so be aware.
- **Always** keep hands out of all the feed hoppers.
- **Never** operate the shredder/chipper without the hoppers properly installed.
- **Never** transport the shredder/chipper with the engine running.

### **PROCESSING MATERIAL**

- Your shredder/chipper can process dry or green material.
- Green material will process quicker and easier than dry material.
- Soft wood processes easier than hard wood.
- Your operator experience will teach you how different materials shred and chip.
- Your operator experience will teach you how fast you can process different materials.
- Most materials process well with the standard screen provided with the unit.
- When chipping branches, sometimes a tail will be left at the end of a branch. To avoid this, rotate the branch as it is fed into the chute.
- Rotating the branch as you feed it into the machine will improve chipping performance.
- An optional screen is available for greater reduction of the material being processed through the shredder hopper.

## USING THE SHREDDER HOPPER

- The shredder hopper is located on the top of the unit and is the opening into which all materials to be shredded should be fed. Most organic materials can be shredded. A flex guard, or blowback shield is secured to the hopper. Material must be pushed past this flap by using a wooden stick in order to enter the main shredding chamber where revolving steel hammers do the shredding. **The blowback shield is an important feature. It prevents kickback of materials! Do not use your machine unless the blowback shield is securely fastened in place.**
- Due to the wide variety of materials that can be shredded, and their very different physical characteristics, initially only feed limited quantities of any material into the hopper. The amount and length of material can be increased if you find that the material is being processed easily. Your judgment and operator experience is very important. Be sure not to overload the machine by feeding too much material into the hopper at one time. If you hear the RPM's of the engine decreasing, stop feeding material into the machine at once. Do not resume feeding the machine until it has returned to full speed.
- The maximum diameter of material that can be shredded is 1". Any larger material should be fed through the chipper-hopper. Material larger than 1" can cause serious damage to any of the internal parts of the shredding chamber. The unit should be inspected after every use for bent hammers, missing spacers, damage to the screen or any other obvious problems. If damage occurs, the rotor assembly can become unbalanced causing excessive vibration. If used in this state, damage can occur. Do not use the machine if vibration is present. Vibration is generally a warning sign of trouble.
- Several small branches can be fed into the shredder-hopper at once providing their combined diameter is less than 1". Branches longer than three feet should be cut to make them more manageable while feeding. Green materials should be allowed to dry, or processed in small batches with dry materials to avoid winding around the rotor assembly.
- Wet materials will clog the machine easily. They are best processed with the optional bar screen.

## MATERIALS BEST SUITED FOR SHREDDING

- |                   |                   |                   |
|-------------------|-------------------|-------------------|
| • Leaves          | • Flowers         | • Corn Stalks     |
| • Roots           | • Soil            | • Palm frond tops |
| • Grass clippings | • Garden debris   | • Potato vines    |
| • Straw           | • Hedge clippings | • Tomato vines    |
| • Hay             | • Kitchen Waste   | • Paper           |
| • Small branches  | • Manure          |                   |

**NOTE - The hammers within the shredding chamber can tug suddenly at material being fed into the shredder-hopper. Do not hold on tightly to branches and vines, and don't feed material straight down into the hopper with your arm pointing downward toward the opening. Instead, keep your arms parallel to the ground and several inches above the top edge of the hopper.**



## USING THE CHIPPER HOPPER

- This chipper-hopper is mounted on the side of the machine and is designed to chip the larger, heavier materials that the shredder-hopper isn't designed to handle. Branches fed into the chute are turned into "chips" by the revolving chipper knife mounted on a flywheel. The chipper-hopper can chip branches and vines ranging in size from 1" to 3" in diameter. Cut your materials into manageable lengths before feeding them into the chipper.

**Note: The chipper hopper must be securely bolted to the side of your equipment before using the machine!**

- Do not force material into the chipper. If the machine does not chip 1" to 3" diameter sticks easily, the chipper knives need to be either replaced, sharpened or the gap between the knife and the wear plate needs adjusting.
- Extremely hard knots will not process very well. Short stubs that have not self-fed through the chipper can be pushed through with the next branch to be chipped. **DO NOT THROW REMAINING STUBS OR UNCHIPPABLE KNOTS INTO THE SHREDDER-HOPPER. DAMAGE WILL RESULT.**
- Cut chipping material into manageable lengths of no more than five or six feet long before chipping them.
- If branches are larger than 1" in diameter, feed only one branch at a time through the chipper hopper.
- Branches smaller than 1" in diameter can be bundled together and fed through the chipper hopper at one time.
- Overloading the shredder/chipper will cause the rotor speed to decrease. If you hear the RPM's decreasing, stop feeding material into the machine until the machine has returned to full speed.

## MATERIALS BEST SUITED FOR CHIPPING.

- Branches, vines or stalks from 1" to 3" in diameter.

## USE COMMON SENSE WHEN USING YOUR SHREDDER/CHIPPER.

- Learn to recognize the change in the sound of your machine when it is overloaded.
- Become familiar with successful operating conditions and avoid those that can overload and damage the machine
- Stop the machine immediately if the machine becomes jammed for any reason.
- If you jam the machine and do not stop the engine, it can damage the machine. This damage can be costly and it may not be covered under warranty. For this reason, it is important that you immediately stop the engine if the machine becomes jammed.
- Only your operator experience will tell you how fast to feed the material to be processed.
- Check to see that the flywheel will turn freely before you start the shredder/chipper.
- Visually check chipper knife for damage each time you use your shredder/chipper.
- Check the knife condition; wear plate condition, gap setting and the nuts and bolts that hold the knife in place for tightness after every 8-10 hours of operation.
- Do not allow processed material to build up within 3" of discharge chute opening. Move shredder/chipper or pile as needed. Failure to do this could result in unnecessary jamming of the machine.
- Use a spade, rake or other long handled tool to move pile of processed material. **NEVER** use your hands or feet!

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## SECTION V – MAINTENANCE & STORAGE

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**IMPORTANT:** The knife should be checked for sharpness and the bolts attaching them to the flywheel for tightness every 8-10 hours of operation.

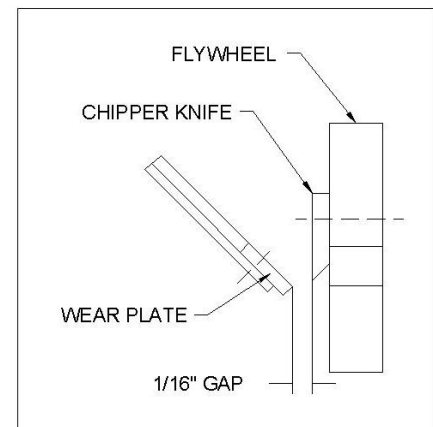
**IMPORTANT:** Every time you perform maintenance or any kind of service or check on the knife, be sure to check the gap between the knife and wear plate for proper setting.

**NOTE:** A knife gauge has been provided with your machine. It is 1/16<sup>th</sup> thick and should be used to set the correct gap between the knife and wear plate.

If the cutting mechanism strikes any foreign object or if your machine should start making an unusual noise or is vibrating, stop the engine, disconnect the spark plug wire(s) from the spark plug(s). Allow the engine to cool before you:

- a. Inspect and examine for damage.
- b. Check for loose nuts, bolts or parts.
- c. Repair or replace any damaged parts before restarting and operating the machine.

1. When not in use, your shredder/chipper should be stored out of the reach of children. Be sure that there are no gasoline fumes in the storage area. For long periods of storage (over the winter), refer to the engine owner's manual.
2. After every 8 hours of operation, lubricate the chipper side bearing. To do this, wipe all dirt, etc., from the grease fittings with a clean cloth, then apply no more than 3 shots of quality general-purpose grease with a hand-pumped grease gun. Over lubrication can also damage the bearings. Also, check the bearing collar set screws regularly to be sure they are tight. If they are loose, reset them with Loctite 243, obtainable at any hardware store.
3. You will find information included referring to operation and maintenance of the engine. Look it over carefully. **BE CERTAIN TO ADD OIL BEFORE STARTING IT.**
4. When the chipper knife needs replacing or sharpening, refer to the section on removal, sharpening and re-installation.
5. Care must be exercised when sharpening the knife to maintain the correct bevel and a straight edge. Refer to sharpening directions. When you install a knife, the clearance between the knife and wear plate must be checked and set. This clearance or gap should be set to 1/16" (see figure 1).
6. To adjust this clearance, loosen the three 1/4" nuts and bolts holding the wear plate in place. The wear plate can be slid up or down (in or out) to achieve the correct gap setting.
7. Take the knife gauge and slide between the knife and wear plate. If the gap is set correctly, the knife gauge will lightly touch both the knife and wear plate. If the gap is too small, you will not be able get the gauge between the knife and the wear plate. If the gap too large, there will be excess room between the knife gauge, knife and wear plate. Tighten the nuts and bolts when the wear plate is in the correct position. Be certain the flywheel rotates without hitting anything before starting the chipper.
8. If the gap between the wear plate and the knife is not set correctly, you will have excessive vibration when chipping and blade will seem to be dull. This should be checked every 8-10 hours of operation.
9. If at any time it becomes necessary to disassemble the chipper repairs, the chipper disk must be re-installed in exactly the same position on the rotor shaft.



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**NOTE:** Proper gap setting is critical to the proper operation of your machine.

## REMOVAL, SHARPENING AND RE-INSTALLATION OF CHIPPER KNIFE

### HOW TO REMOVE THE KNIFE

- Stop the engine.
- Remove spark plug wire(s) and keep away from spark plug(s).
- Disconnect battery at negative terminal.
- Open the access cover on the chipper basic machine.
- Rotate the chipper disk with a wooden stick until the three countersunk screws attaching the knife to the flywheel are visible through the access door.
- Clean out the heads of the allen screws with an awl or another small sharp tool.
- Insert a 3/16" allen wrench into the heads of the screws.
- While applying pressure with the allen wrench, apply a small amount of heat from a propane torch to the screws to break loose the Loctite on the screws.
- Remove the heat once the screws have initially loosened.
- Remove all three allen screws in this manner.

### KNIFE SHARPENING

- You should never attempt to sharpen the chipper knife (or knives) freehand.
- It is extremely important that the 45-degree angle be maintained consistently for proper performance.
- The chipper knife (or knives) should be taken to a machine shop for proper sharpening.
- Excessive heat generated during the sharpening process will damage knives and weaken the metal. Be sure the knife is not overheated.

### KNIFE INFORMATION

- The chipper knife should be checked routinely for sharpness.
- Using a dull knife will decrease performance and cause excessive vibration that will cause damage to the shredder/chipper.
- How many times a knife can be sharpened is determined by how much material needs to be taken off to sharpen or to compensate for dents or gouges.
- A new chipper knife has 5/16" measurement between the short side bevel edge and the knife mounting holes. See figure 2.

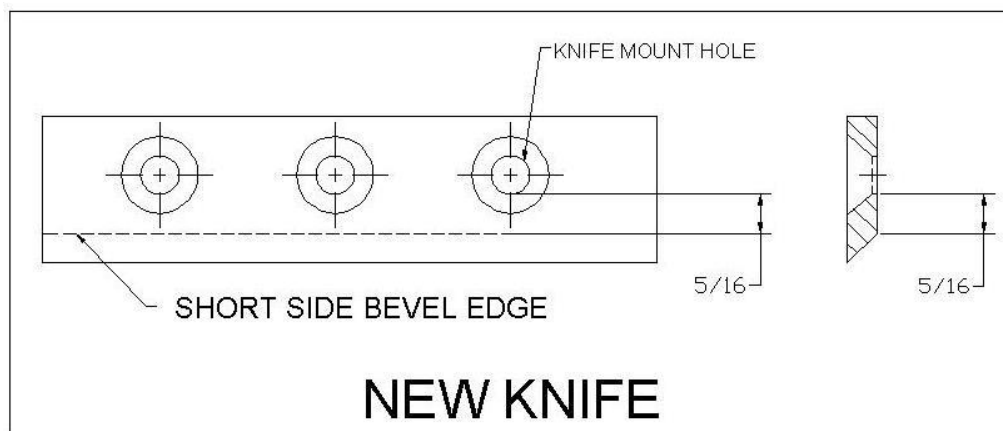


Figure 2

- The knife should never be sharpened to the extent that more than  $3/32$ " is taken off this measurement.
- Once this measurement is below  $7/32$ " (see figure 3) the knife should be replaced.
- If you are unable to remove dents or gouges with these guidelines, replace the knife.

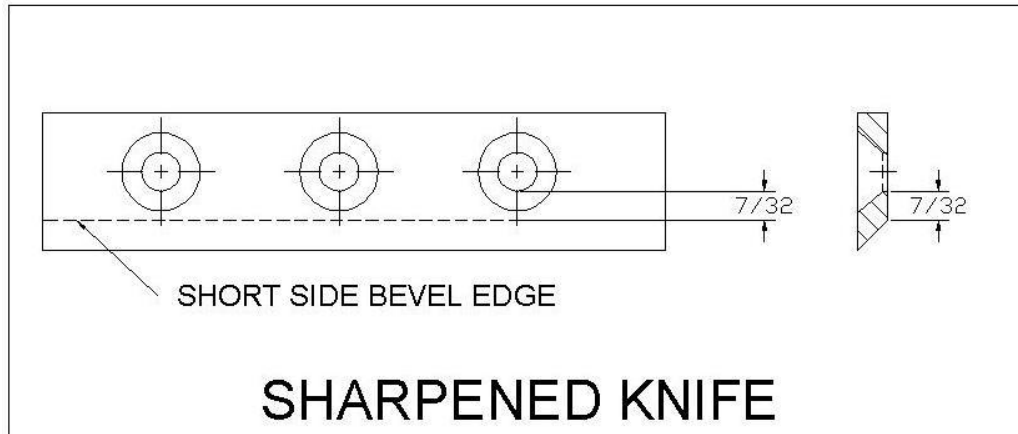


Figure 3

### KNIFE INSTALLATION

- Clean chipper disk where knife is going to be attached.
- Visually inspect the chipper disk slot and knife mounting area and be sure they are clean and that the knife will be able to mount flush against the chipper disk.
- Visually inspect and clean the knife.
- Apply Loctite 243 to the screws that hold the knife in place.
- Hand tighten the knife to the chipper disk. If you are installing a new knife, use the new hardware that comes with the knife when attaching it to the chipper disk.
- Tighten the center bolt.
- Tighten the outer bolt.
- Tighten the inner bolt.
- Double-check all three for tightness one more time.

### WEAR PLATE

- The wear plate should have a square edge and be free of dents or gouges.
- The wear plate can be sharpened by hand, but as with the knife, do not overheat during the sharpening process. This will change the characteristics of the steel and it should be replaced.
- Check the gap between the knife and wear plate every time any adjustments are done to either piece, or after every 8-10 hours of operation.

**AFTER ANY BLADE OR WEAR PLATE MAINTENANCE OR ADJUSTMENT, ROTATE THE CHIPPER DISK WITH A STICK. WATCH AND LISTEN CAREFULLY FOR ANY UNUSUAL NOISES, CLICKING OR VIBRATION. IF ANY OF THESE ARE DETECTED, INSPECT THE MACHINE FOR DAMAGE, REPAIR OR REPLACE ANY DAMAGED PARTS AND CHECK FOR ANY LOOSE PARTS AND RETIGHTEN.**

**THE KNIFE MUST BE CHECKED AND MAINTAINED!**

**THE KNIVES MUST BE SHARP!**

**BE SURE TO REINSTALL THE KNIFE CORRECTLY AND DOUBLE CHECK THE TIGHTNESS!**

### **HAMMERS**

When the hard steel hammers of the rotor assembly become dull or round on the cutting edge, they may be rotated or reversed. **These hammers have four cutting edges that may be used before replacement is necessary.** To reverse the hammers, proceed as follows:

- Remove belt guard.
- Remove round cover plate from behind belt guard.
- Remove the top plate.
- Remove shredder hopper.
- Turn rotor assembly until hammer rod is facing up.
- Turn hammer rod until small end of groove pin is facing up.
- Drive the groove pin from the hammer rod with a punch.
- Remove hammer rod through access hole on side of machine.
- Reverse hammers and reinstall with spacers on hammer rod.
- Replace old groove pin with new groove pin.

**NOTE: Be sure the hammers and spacers are reinstalled in exactly the order in which they were removed. Refer to the rotor assembly drawing for the correct order.**

## INSTRUCTIONS FOR ADJUSTING OR REPLACING BELT

### **BELT ADJUSTMENT**

The belt on your chipper should deflect  $3/8$ " under three pounds of pressure as shown in figure 1 below. If it doesn't, adjust per the following directions.

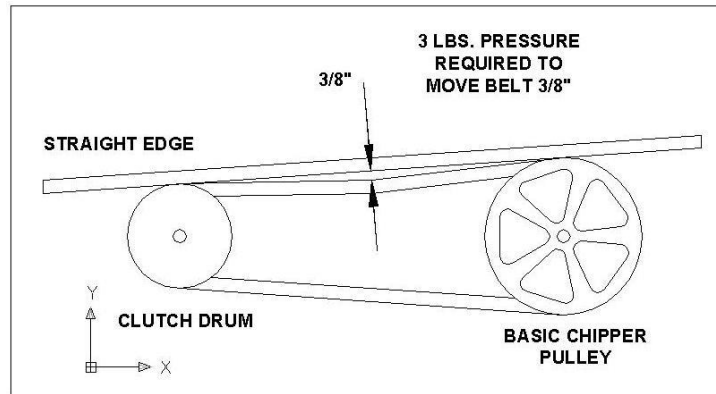


Figure 1

- Remove belt guard.
- Loosen engine bolts.
- Tighten or loosen the nut on the belt tensioner until you have the correct tension as shown in figure 1.
- Retighten engine bolts.
- Check alignment of the clutch with the drive pulley by placing a straightedge across both faces as shown in figure 2. If adjustment is necessary, correct alignment by moving rotor pulley in or out on the rotor shaft. **Do not make adjustment by moving the clutch on the engine shaft.**
- Replace belt guard.

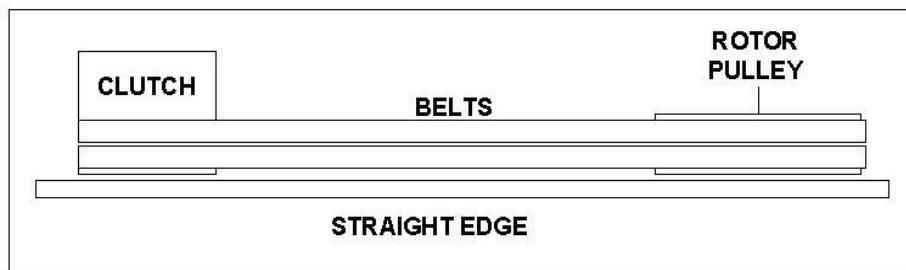


Figure 2

### **BELT REPLACEMENT**

- To replace the belt, follow the above belt's adjustment directions.
- After you have loosened the engine bolts, remove the old belt and replace it with a new one.
- Set belt tension and alignment per above directions.

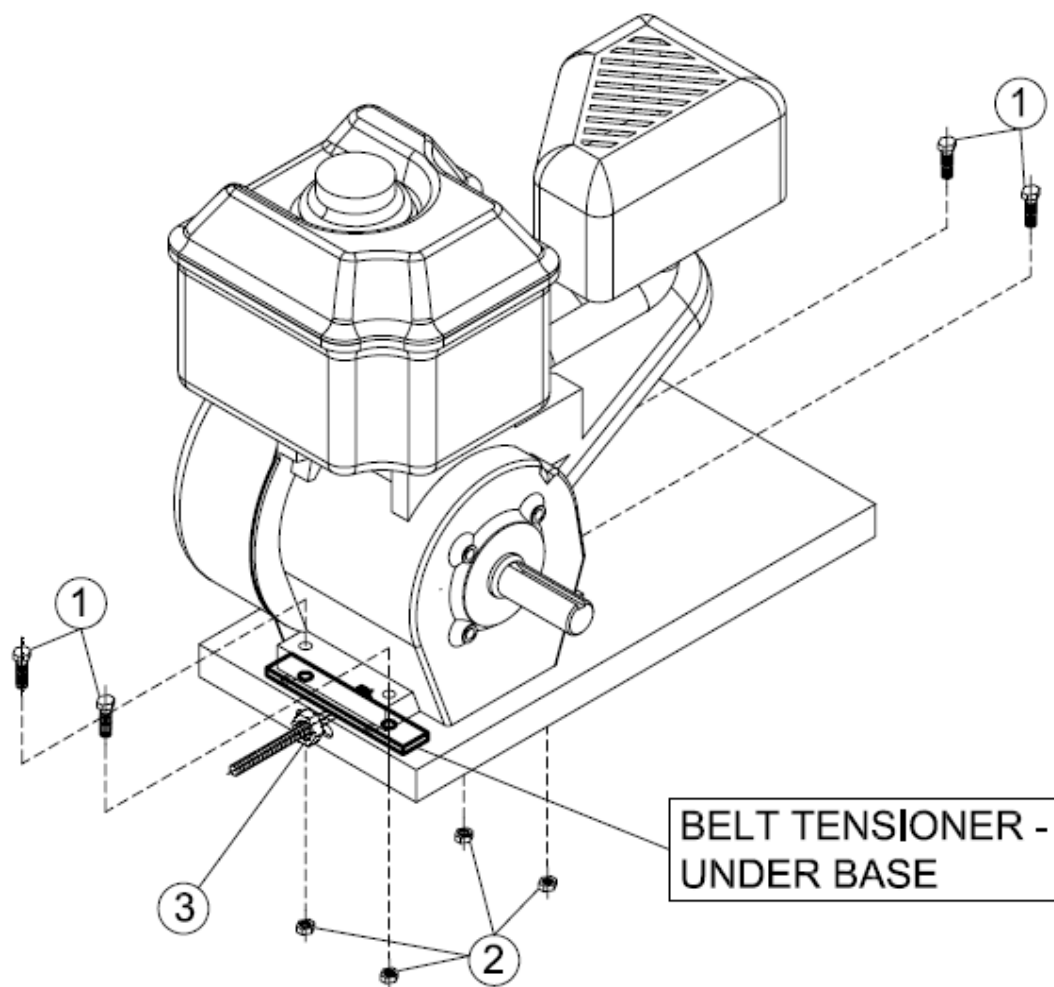
**NOTE: Check and re-tighten belts after initial break-in period. (One hour of use)**

## BELT TIGHTENING INSTRUCTIONS

1 - LOOSEN THE 4 BOLTS (1) AND NUTS (2) ATTACHING THE ENGINE TO THE ENGINE BASE.

2 - TIGHTEN THE NUT (3) ON THE BELT TENSIONER.

NOTE - THE BELT TENSIONER IS UNDER THE ENGINE BASE AND ON THE FRONT TWO ENGINE BOLTS. TIGHTENING THE NUT (3) PULLS THE ENGINE FORWARD, TIGHTENING THE BELT.



## CENTRIFUGAL CLUTCH TECH TIPS

### CLUTCH PART NO. 030-0164

**THE SHOES AND SPRINGS ON THE CLUTCH ARE NORMAL WEAR ITEMS. IF YOU NOTICE DECREASED PERFORMANCE OF THE CLUTCH THEY SHOULD BE CHECKED AND REPLACED IF NECESSARY.**

The clutch on your machine is designed for rugged, dependable service, however, it is important to understand the limitations of a clutch. A clutch is designed to provide load free starting of the engine, and slippage under excessive overloading of the driven application. These features help protect the engine from damages such as broken crankshafts and starters.

The clutch obtains its power from engine RPM's. The lower the engagement speed, and the higher the maintained engine speed, the more torque the clutch can transfer to the driven unit. **Do not operate at less than full RPM's.**

- At engine start-up, the engine of your chipper operates under no load until approximately 1000-1200 RPM'S at which speed the centrifugal clutch engages and begins driving the rotor.
- Proper rotor speed is 2400 RPM +/- 200 RPM.
- Do not tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. See your authorized dealer for engine governor adjustments.
- Become familiar with successful operating conditions and avoid those that can overload and damage the machine.
- Do not overload or attempt to chip material beyond manufacturers recommendation. Personal injury or damage to the machine could result.
- Learn to recognize the sound of the machine when it is overloaded.
- Stop the machine immediately if the machine becomes jammed due to overloading.
- If you jam the machine and do not stop the engine, it could burn the belt or ruin the clutch.
- Only your operator experience will tell you how fast you can successfully feed limbs into the machine.
- **Clutch damage can be costly and it may not be covered under warranty. For this reason, it is important that you immediately shut off the machine if it becomes jammed.**



## **CLUTCH MAINTENANCE**

The centrifugal clutch on this machine is permanently lubricated and does not require oil or grease. More lubricant can be added to the bushing. Any standard motor oil is recommended. If the drum wobbles excessively after long periods of use, replace the drum assembly. Always replace shoes and springs in sets. Whenever shoes are changed, replace all springs.

## **CLUTCH REMOVAL**

1. Remove clutch from shaft by removing bolt and washers.
2. Slide clutch off shaft.
3. Remove key from keyway.

## **DISASSEMBLY OF EXISTING CLUTCH**

1. Remove retainer ring and slide off drum assembly.
2. Unhook one spring from its shoe. Use tape wrapped pliers to avoid nicking spring.
3. Carefully note position of shoes. Remove shoes from hub.

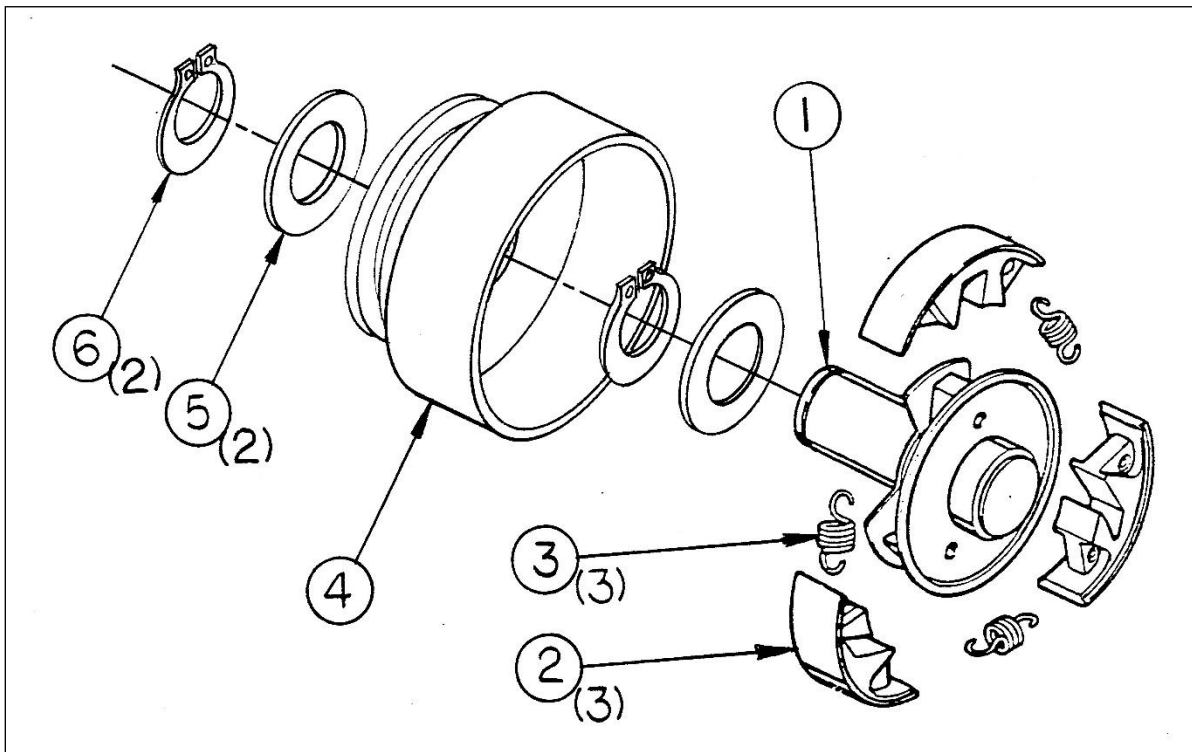
## **REASSEMBLE**

1. Locate shoes correctly on hub for rotation required.
2. Place one end of each spring over a shoe pin, stretch spring just enough to clear pin on the other shoe. Use tape wrapped pliers to avoid nicking spring. Avoid over stretching that may damage spring. Repeat for all shoes.
3. Replace washer on hub shaft.
4. Reassemble drum to hub, secure with retaining ring.
5. Locate key in keyway of hub.
6. Slide clutch onto crankshaft.
7. Secure hub by tightening cap screw, flat washer and lock washer.

## **INSTALLATION OF A NEW CLUTCH**

1. Clean shaft and remove any burrs.
2. Apply anti-seize compound to the shaft.
3. Place key in keyway on shaft.
4. Slide clutch onto shaft, secure with bolt, flat washer and lock washer (items #21, 22 & 23).

**030-0611 CLUTCH BREAKDOWN**



<u>Item</u>	<u>Part No.</u>	<u>Qty</u>	<u>Description</u>
1	030-0611-1	1	Hub Assembly
2	030-0611-2	3	Shoe
3	030-0611-3	3	Spring
4	030-0611-4	1	Drum Assembly
5	030-0611-5	2	Washer
6	030-0611-6	2	Retaining Ring

## TROUBLESHOOTING

SYMPTOM	PROBLEM	CORRECTION
Clutch overheats. Belt burns. Flywheel won't turn.	Clutch is slipping or flywheel is jammed or stopped.	<ul style="list-style-type: none"> <li>• Immediately stop engine.</li> <li>• Remove spark plug wires.</li> <li>• Turn flywheel with a stick to be sure it turns freely.</li> <li>• Check belt tension.</li> </ul>
Chipping action seems too slow or flywheel stalling.	Engine speed is too slow. Belts are slipping.	<ul style="list-style-type: none"> <li>• Run engine at full throttle.</li> <li>• Check for loose or missing belt, and tighten.</li> </ul>
When chipping, log seems to vibrate excessively.	Knife is dull. Gap between knife and wear plate is too great.	<ul style="list-style-type: none"> <li>• Remove knife &amp; sharpen - be sure to maintain same bevel of 45 degrees.</li> <li>• Adjust gap as per instructions.</li> </ul>
Chipper knife is hitting wear plate.	The gap between the knife and wear plate is set incorrectly.	<ul style="list-style-type: none"> <li>• Adjust gap per directions in the front of this section.</li> </ul>
Engine runs but flywheel does not rotate.	Inner shoes of clutch worn. Retaining springs are weak or broken. Loose drive belt.	<ul style="list-style-type: none"> <li>• Replace worn or broken clutch parts.</li> <li>• Check belt tension.</li> <li>• Clear chipper chamber.</li> </ul>

## LUBRICATION AND MAINTENANCE

OPERATION TIME	PROCEDURE	COMMENTS
BREAK IN	<ul style="list-style-type: none"> <li>• Change engine oil and filter after first five hours.</li> <li>• Check belt tension.</li> <li>• Check all nuts and bolts for tightness.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow oil recommendations per the engine &amp; owner's manual.</li> <li>• Adjust per directions.</li> <li>• Tighten if necessary.</li> </ul>
8 HOURS	<ul style="list-style-type: none"> <li>• Check engine oil.</li> <li>• Check chipper knife for sharpness.</li> <li>• Check knife and wear plate gap.</li> <li>• Clean air filter.</li> <li>• Grease bearings on basic chipper. *</li> </ul>	<ul style="list-style-type: none"> <li>• Per recommendations. Do not overfill.</li> <li>• See knife information.</li> <li>• See gap setting information.</li> <li>• Per engine recommendations.</li> <li>• Use quality general-purpose grease.</li> </ul>
40 HOURS	<ul style="list-style-type: none"> <li>• Change engine oil. **</li> <li>• Check tire pressure.</li> <li>• Remove and sharpen or replace chipper knife.</li> <li>• Sharpen wear plate.</li> </ul>	<ul style="list-style-type: none"> <li>• Per recommendations. Do not overfill.</li> <li>• Add or adjust as required.</li> <li>• See knife information.</li> <li>• See wear plate information.</li> </ul>
100 HOURS	<ul style="list-style-type: none"> <li>• Replace belt.</li> <li>• Change engine oil.</li> </ul>	<ul style="list-style-type: none"> <li>• Order replacement belts.</li> <li>• Per recommendations. Do not overfill.</li> </ul>
200 HOURS	<ul style="list-style-type: none"> <li>• Change engine oil filter.</li> <li>• Clean and adjust, or replace spark plugs.</li> </ul>	<ul style="list-style-type: none"> <li>• Per recommendations in engine manual.</li> <li>• Per recommendations in engine manual.</li> </ul>

\* No more than three pumps of a hand-pumped grease gun. Do not over-grease as this may damage the bearing seal.

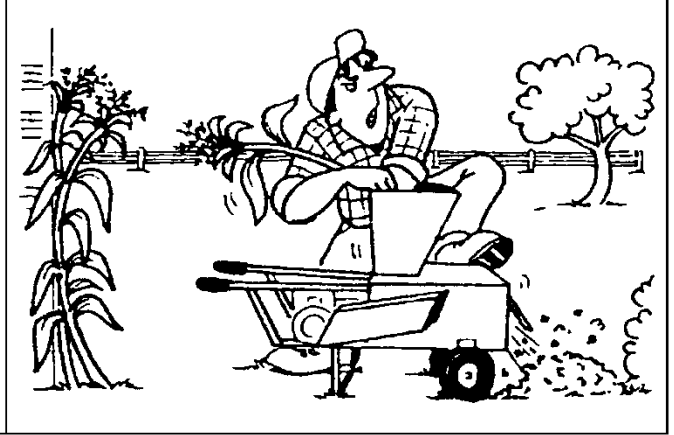
\*\* Lubrication schedule may vary depending on working environment. Overly dirty and dusty situations will require more frequent oil changes to protect the engine.

### RIGHT WAY



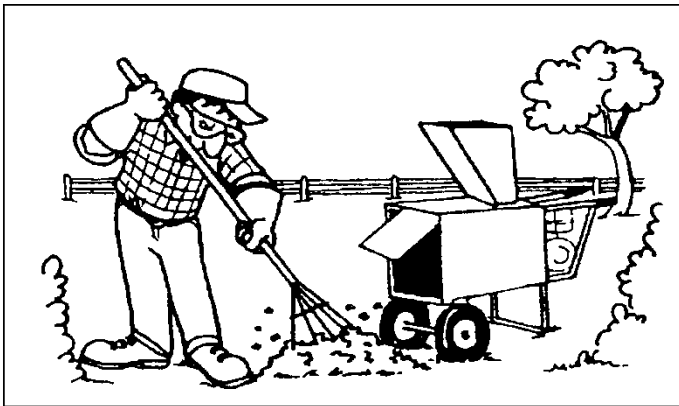
DO STAND BACK. WEAR SAFETY GLASSES AND GLOVES

### WRONG WAY



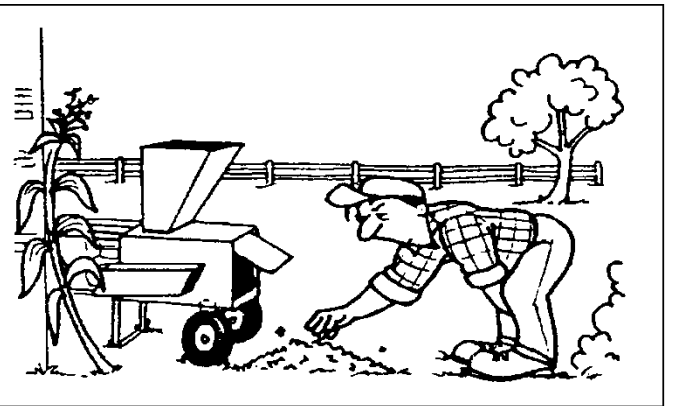
DON'T ALLOW HANDS TO ENTER HOPPER OR PEER INTO HOPPER WITH FACE.

### RIGHT WAY



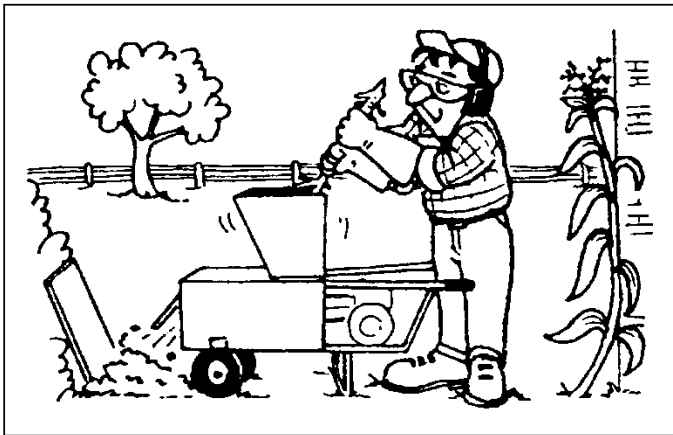
DO CLEAR DISCHARGE AREA OF MACHINE WITH SPADE, RAKE OR LONG HANDLED TOOL.

### WRONG WAY



DON'T CLEAR DISCHARGE WITH HANDS. NEVER PLACE ANY PART OF YOUR BODY IN DISCHARGE AREA.

### RIGHT WAY



DO KEEP PEOPLE AWAY AND DISCHARGE SHREDDED MATERIAL INTO COMPOST HEAP. USE STICK, NEVER HANDS, IF MATERIAL BRIDGES IN THE HOPPER.

### WRONG WAY



DON'T ALLOW PETS, CHILDREN OR BYSTANDERS IN THE OPERATING AREA.

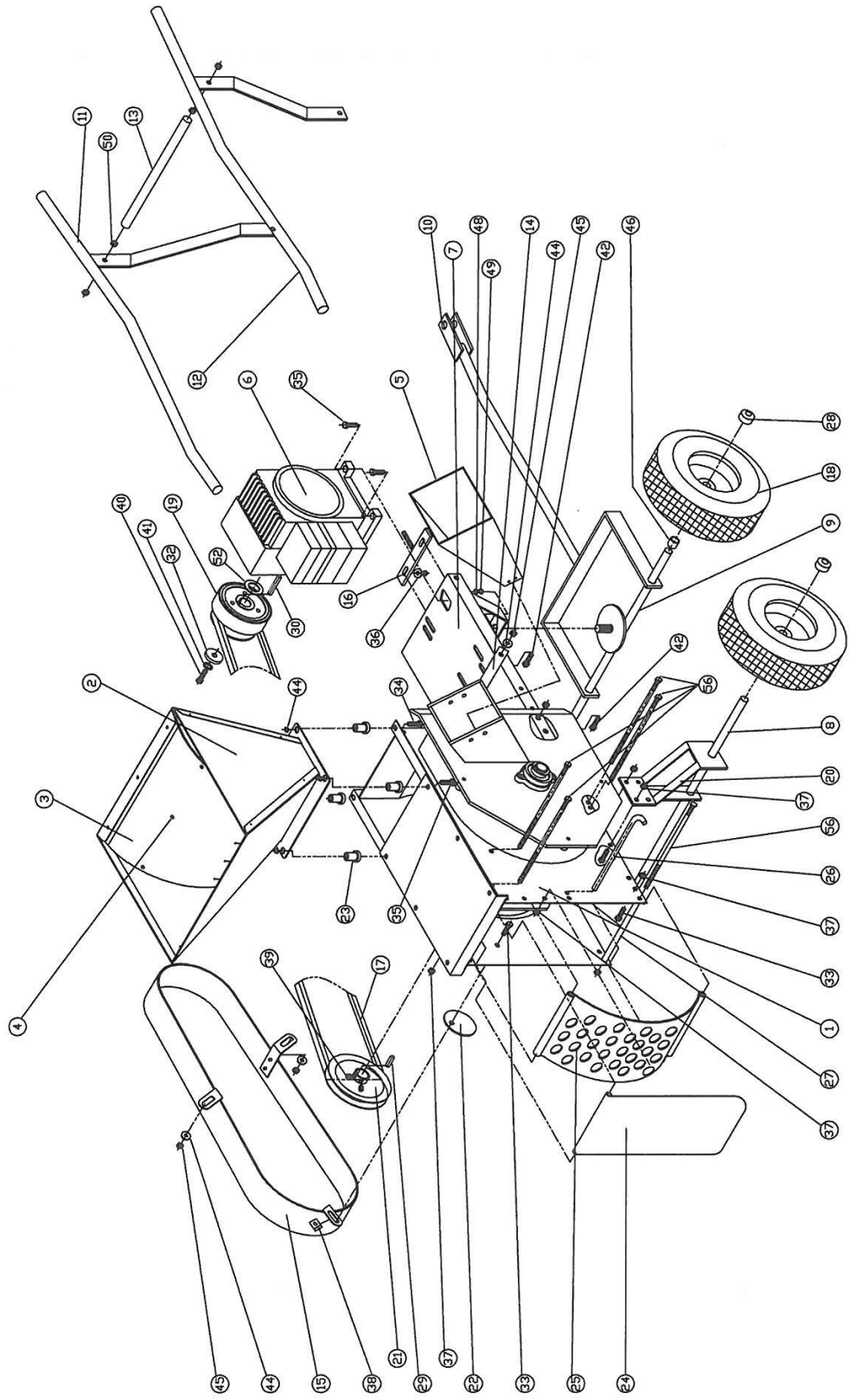
## SECTION VI - PARTS

### 12P/12PT/12PTE PARTS LIST

ITEM #	PART #	PART #	PART #	PART #	QTY	DESCRIPTION
	12P	12PT	12PTE	12PT8H		REFER TO PAGE 17
1	900-0147	900-0147	900-0147	900-0147	1	BASIC UNIT
2	900-0248	900-0248	900-0248	900-0248	1	SHREDDER HOPPER WELDMENT
3	900-0073	900-0073	900-0073	900-0073	1	FLEX GUARD
4	800-0026	800-0026	800-0026	800-0026	3	PUSH BUTTONS
5	913-0379	913-0379	913-0379	913-0379	1	CHIPPER HOPPER KIT
6	030-0507	030-0507	030-0529	030-0249	1	ENGINE
7	908-0081	908-0080	908-0080	908-0080	1	ENGINE BASE WELDMENT
8	908-0048	908-0048	908-0048	908-0048	1	AXLE
9	N/A	908-0032	908-0032	908-0032	1	FRONT AXLE WELDMENT
10	N/A	908-0029	908-0029	908-0029	1	TOW HITCH WELDMENT
11	908-0036	N/A	N/A	N/A	1	LH HANDLE WLDMNT
12	908-0037	N/A	N/A	N/A	1	RH HANDLE WLDMNT
13	908-0006	N/A	N/A	N/A	1	HANDLE TIE ROD
14	908-0072	908-0072	908-0072	908-0072	2	ENGINE BASE BRACE
15	900-0154	900-0154	900-0154	900-0154	1	BELT GUARD ASSEMBLY
16	908-0078	908-0078	908-0078	908-0078	1	BELT TENSIONER
17	030-0233	030-0233	030-0233	030-0233	1	BELT
18	030-0641	030-0641	030-0641	030-0641	4	4.10/3.50 X 4" PNEUMATIC WHEEL (QTY-2 ON 12P)
19	030-0611	030-0611	030-0611	030-0611	1	CLUTCH
20	908-0060	908-0060	908-0060	908-0060	2	AXLE BRACKET
21	030-0229	030-0229	030-0229	030-0229	1	PULLEY
22	900-0040	900-0040	900-0040	900-0040	1	COVER PLATE
23	500-0068	500-0068	500-0068	500-0068	4	VIBRATION DAMPENERS
24	900-0010	900-0010	900-0010	900-0010	1	BAFFLE PLATE
25	500-0004	500-0004	500-0004	500-0004	1	SCREEN-1" HOLES
26	500-0015	500-0015	500-0015	500-0015	4	SCREEN AND BAFFLE ROD
27	500-0020	500-0020	500-0020	500-0020	1	SPACER
28	090-0457	090-0457	090-0457	090-0457	4	PUSH CAPS (QTY-2 ON 12P)
29	500-0031	500-0031	500-0031	500-0031	1	¼ X ¼ X 1" KEY
30	703-0424	703-0424	703-0424	703-0424	1	¼ X ¼ X 2" KEY
31	100-0015	100-0015	100-0015	100-0015	4	COTTER PIN
32	804-0018	804-0018	804-0018	804-0018	1	WASHER
33	090-0066	090-0066	090-0066	090-0066	5	5/16-18 X ¾" HHCS PLTD.
34	090-0089	090-0089	090-0089	090-0089	2	5/16-18 X 1-1/4" HHCS PLTD.
35	090-0090	090-0090	090-0090	090-0090	6	5/16-18 X 1-1/2" HHCS PLTD.
36	090-0233	090-0233	090-0233	090-0233	4	5/16 FLATWASHER(6)
37	090-0460	090-0460	090-0460	090-0460	13	5/16-18 NYLOCK NUT
38	090-0438	090-0438	090-0438	090-0438	1	5/16-18 J-NUT
39	080-0053	080-0053	080-0053	080-0053	2	5/16-18 X 5/16" SET SCREW W/ NYLON PATCH
40	090-0021	090-0021	090-0021	090-0021	1	3/8-24 X 1-1/4" HHCS
41	090-0228	090-0228	090-0228	090-0228	1	3/8 LOCKWASHER
42	090-0110	090-0110	090-0110	090-0110	6	3/8-16 X 1" HHCS(5)
43	N/A	090-0111	090-0111	090-0111	1	3/8-16 X 1-1/4" HHCS
44	090-0234	090-0234	090-0234	090-0234	2	3/8 FLATWASHER
45	090-0461	090-0461	090-0461	090-0461	7	3/8-16 NLOCK NUT(5)
46	N/A	500-0012-P	500-0012-P	500-0012-P	2	5/8 SPACER
48	N/A	090-0442	090-0442	090-0442	1	5/8-11 JAM NUT
49	N/A	090-0210	090-0210	090-0210	1	5/8-11 HEX NUT
50	090-0207	N/A	N/A	N/A	4	3/8" HEX NUT
51	090-0462	N/A	N/A	N/A	4	5/16-18 x ¾ CARRIAGE BOLT
52	090-0024-4	090-0024-4	090-0024-4	090-0024-4	1	SHIM
NS	N/A	N/A	030-0244	N/A	1	12 VOLT BATTERY
NS	N/A	N/A	900-0332	N/A	1	BATTERY BOX
NS	N/A	N/A	090-0076	N/A	2	BATTERY HOLD DOWN – 5/16-18 x 3 ½" HHCS
NS	N/A	N/A	913-0097	N/A	1	POSITIVE BATTERY CABLE
NS	N/A	N/A	030-0555	N/A	1	NEGATIVE BATTERY CABLE

\*NS = NOT SHOWN IN DRAWING

# 12P/12PT/12PTE MAIN ASSEMBLY



12P/12PT/12PTE  
MAIN ASSEMBLY

## 900-0147 – 12P/PT/PTE BASIC MACHINE PARTS LIST

ITEM #	PART #	QTY	DESCRIPTION
1	900-0148	1	ROTOR ASSEMBLY
2	900-0097	1	CHIPPER SIDE PLATE WELDMENT
3	900-0336	1	CHIPPER PLATE AND CHUTE WELDMENT
4	913-0325	1	WEAR PLATE
5	030-0279	1	1 3/16" BEARING
6	900-0348	1	DRIVE SIDE PLATE
7	030-0279	1	1 3/16" BEARING
8	900-0005	1	SCROLL WELDMENT
9	900-0045	1	TOP PLATE
10	900-0243	1	CHIPPER DISK – COMPLETE WITH KNIFE
11	913-0259	1	KNIFE KIT – COMPLETE WITH HARDWARE AND LOCTITE
12	030-0118	1	TAPERLOCK BUSHING
13	020-0001	2	3/8-16 X 5/8" SET SCREW
14	030-0117	1	RETAINING RING
15	090-0023	3	SHIM
16	090-0677	3	¼-20 X 1" CARRIAGE BOLTS
17	090-0245	3	¼ SAE FLATWASHER
18	090-0470	3	¼-20 NYLOCK NUT
19	090-0258	3	5/16-18 X ¾" FHSCS
20	090-0066	4	5/16-18 X ¾" HHCS
21	090-0089	9	5/16-18 X 1 ¼" HHCS
22	500-0064	2	5/16-18 X 9 ½" HHCS
23	090-0048	17	5/16-18 GRIPCO LOCK NUT
24	090-0110	2	3/8-16 X 1" HHCS
25	090-0121	2	3/8-16 X 1 ¼" HHCS
26	090-0240	4	3/8" SAE FLATWASHER
27	090-0049	4	3/8-16 GRIPCO LOCK NUT
28	090-0162	4	10-32 X 3/8" SELF TAPPING SCREW
29	500-0020	1	SPACER – REAR BOTTOM 12P BASIC
30	090-0676	1	SHR-118 RETAINING RING
31	900-0071-1	1	ACCESS COVER

## 900-0148 – 12P/PT/PTE ROTOR ASSEMBLY

ITEM #	PART #	QTY	DESCRIPTION
1	900-0084	1	ROTOR WELDMENT
2	900-0100-3	4	HAMMER ROD
3	500-0008	24	HAMMERS
4	500-0010	4	SPACER – 5/16"
5	500-0012	4	SPACER – 5/8"
6	500-0011	20	SPACER – 7/8"
7	030-0153	4	GROOVE PIN







## LIMITED WARRANTY

Any product manufactured by MacKissic, Inc. and found, in the judgment of MacKissic, Inc., to be defective in material or workmanship, will be repaired or replaced by an Authorized MacKissic Service Dealer without charge for parts and labor to the original owner of the MacKissic product.

The MacKissic product including any defective part must be returned to an Authorized MacKissic Service Dealer within the warranty period. The expense of delivering the product to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be borne by the owner. MacKissic's responsibility is limited to making the required repairs or replacements only. No claim of breach of warranty shall be cause for cancellation or rescission of the sales contract of any MacKissic product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an Authorized MacKissic Service Dealer.

This warranty is limited to two years from the date of original retail purchase for any MacKissic product that is used for consumer purposes or 90 day for commercial and rental use.

This warranty does not cover any product that has been subject to misuse, abuse, neglect, negligence, or accident, or that has been operated in any way contrary to or inconsistent with the operating instructions as specified in the owner's manual. The warranty does not apply to any damage to the product that is the result of improper maintenance, or to any product or parts that have not been assembled or installed as specified in the owner's manual.

The warranty does not cover any product that has been altered or modified. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the judgment of MacKissic, Inc., are either incompatible with the MacKissic product or adversely affect its operation, performance or durability. This warranty does not cover engines, electric starters, batteries, and tires, which are warranted separately by their manufacturer and for a different period of time.

MacKissic, Inc. reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

THE DURATION OF THE LIMITED WARRANTY IS TWO YEARS CONSUMER, 90 DAYS COMMERCIAL AND RENTAL USE. REPAIR OR REPLACEMENT AS PROCEEDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. MacKissic, INC., SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EXCEPT THE LIMITED WARRANTY DESCRIBED ABOVE, ALL IMPLIED WARRANTIES (MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE SPECIFICALLY DISCLAIMED.

MacKissic, INC. ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, EXPENSE FOR GASOLINE, OIL, EXPENSE OF DELIVERING THE PRODUCT TO AN AUTHORIZED MacKISSIC SERVICE DEALER AND EXPENSE OF RETURNING IT BACK TO THE OWNER, MECHANIC'S TRAVEL TIME, TELEPHONE OR TELEGRAM CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY REPAIRS ARE BEING PERFORMED, TRAVEL, LOSS OR DAMAGE TO PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME OR INCONVENIENCE.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

8/29/22

01/03/19

## OWNER'S MANUAL REVISION FOR 12P/12PT/12PTE P/N 900-0345

**PLEASE KEEP THIS SHEET WITH YOUR OWNER'S MANUAL AND REFERENCE IT  
WHEN ORDERING PARTS AND/OR SAFETY DECALS**

- ITEM #19, PG 30, CLUTCH**                      **NEW PART #030-0611**
  
- NOT SHOWN**
  - #810-0242                      **CLUTCH INNER BELT GUARD**
  - #090-0408 (QTY 2)            **5/16-24 X 3/4" HHCS**                      **MOUNTING HARDWARE**
  - #090-0394 (QTY 2)            **5/16 SPLIT LOCKWASHER**                **MOUNTING HARDWARE**
  - #090-0024-4 (QTY 2)        **1.5 X 1.015 X 0.125 SHIM**                **CLUTCH SPACER**
  - #090-0024-3 (QTY 1)        **1.5 X 1.015 X 0.075 SHIM**                **CLUTCH SPACER**
  - #090-0024 (QTY 1)        **1.565 OD X 1.192 ID X 0.050 THK**        **PULLEY SPACER**
  
- NEW SAFETY DECALS**
  - 091-0057            2            **DANGER, HANDS & FEET DECAL**
  - 913-0265            1            **CLUTCH DAMAGE DECAL**
  - 930-0004            1            **BELT GUARD WARNING DECAL**
  - 930-0006            1            **AVOID ELECTRICAL SHOCK DECAL**
  - 930-0007            1            **BURN HAZARD WARNING DECAL**
  - 930-0009            1            **ROTATING PARTS WARNING DECAL**
  - 930-0010            1            **DISCHARGE WARNING DECAL**
  - 940-0001            1            **ROTATING KNIFE WARNING DECAL**
  - 940-0011            1            **DISCHARGE DANGER DECAL**